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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,875	11/26/2003	Gabriel Suci	EH-10756(02-683)	1260
34704	7590	03/13/2006	EXAMINER	
BACHMAN & LAPOINTE, P.C.			KERSHTEYN, IGOR	
900 CHAPEL STREET			ART UNIT	
SUITE 1201			PAPER NUMBER	
NEW HAVEN, CT 06510			3745	

DATE MAILED: 03/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/720,875	Applicant(s) SUCIU ET AL.	
	Examiner Igor Kershteyn	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,7,9,11-13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 3,5,7,9,11-13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-13, and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Ledwith (4,483,054).

In figures 1 and 2, and column 3, lines 3-30, Ledwith teaches a method for installing a turbine structure into a turbine section of a gas turbine engine comprising the steps of: installing a one-piece drum rotor 50 with an upstream set of turbine blades 52d,52c,52b attached to said one-piece drum rotor 50; and said installing step comprising joining said one-piece drum rotor 50 to an adjacent structure via a leading edge flange 64 and a nut and bolt arrangement. *It is noted that even though the nut and bolt arrangement is not shown in figure 2, it is clearly shown in figure 1 which represents Ledwith's prior art and figure 2 clearly shows all the provisions for the nut and bolt attachment.*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 7, 9, and 15-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ledwith (4,483,054) in view of Redding (3,692,429).

In figures 1 and 2, Ledwith teaches a turbine structure for use in a gas turbine engine, comprising: a one piece drum rotor 50; said drum rotor including a plurality of turbine disks 80a,80b,80c,80d welded together and having a first diameter (not numbered) at a leading one 80a of said turbine disks and a second diameter (not numbered) at a trailing one 80d of said turbine disks wherein said first diameter is greater than said second diameter; said drum rotor 50 having a plurality of integrally formed knife elements (not numbered) and an integrally formed flange 60 for allowing said one-piece drum rotor 50 to be joined to an adjacent structure, said flange 60 being located near said leading one 80a of said turbine disks; and a plurality of turbine blades 74a-d attached to said one-piece drum rotor 50.

Ledwith does not teach turbine blades being attached to the rotor by a fir tree arrangement.

Redding, in figures 1-5, teaches a rotor 11 with turbine blades 17 being attached to the rotor 11 by a fir tree arrangement.

Since Ledwith and Redding are analogous art because they are from the same field of endeavor, that is the gas turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the turbine

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structure of Ledwith with the fir tree arrangement as taught by Redding for the purpose of attaching the blades to the drum rotor.

Claims 3, 5, 7 and 15-17, 18, and 20 are rejected under 35 U.S.C. 103(a) as being anticipated by Ciokajlo (5,156,525) in view of Ortolano (3,700,353).

In figures 1-6, Ciokajlo teaches a turbine structure for use in a gas turbine engine, comprising: a one piece drum rotor 60; said drum rotor including a plurality of turbine disks 64,66,68 welded together and having a first diameter OD4 at a leading one 64 of said turbine disks and a second diameter OD6 at a trailing one 68 of said turbine disks wherein said first diameter is greater than said second diameter; said drum rotor 60 having a plurality of formed knife elements 82,84,86 and an integrally formed flange 60a for allowing said one-piece drum rotor 60 to be joined to an adjacent structure, said flange 60a being located near said leading one 80a of said turbine disks; and a plurality of turbine blades 74a-d attached to said one-piece drum rotor 50.

Ciokajlo does not teach a plurality of integrally formed knife elements.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to make the plurality knife edge elements of Ciokajlo integrally formed with the drum rotor because the use of a one piece construction instead of the structure disclosed by Ciokajlo would be merely a matter of obvious engineering choice. See MPEP 2144.04.V (B).

Note. Claims 18 and 20 are product-by-process claims because they recite "turbine discs welded together" and the apparatus or structure claimed is identical to that

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described in the reference to Ciokajlo presented by the examiner and thus anticipated by the reference because patentability of a product does not depend on its method of production. See MPEP 2113.

Ciokajlo doesn't teach the turbine blades being attached to the rotor by a fir tree arrangement.

Ortolano, in figure 2, teaches a turbine rotor 32 with turbine blades 38 being attached to the rotor 32 by a fir tree arrangement. .

Since Ciokajlo and Ortolano are analogous art because they are from the same field of endeavor, that is the gas turbine art, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the gas turbine structure of Ciokajlo with the fir tree arrangement as taught by Ortolano for the purpose of attaching the blades to the drum rotor.

Note. Claims 18 and 20 are product-by-process claims because they recite "turbine discs welded together" and the apparatus or structure claimed is identical to that described in the reference to Ciokajlo presented by the examiner and thus anticipated by the reference because patentability of a product does not depend on its method of production. See MPEP 2113.

Prior Art

Prior art made of record but not relied upon is considered pertinent to Applicant's disclosure and consist of one patent.

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Brownhill et al. (2,656,147) is cited to show a drum rotor for a low pressure stage of a gas turbine having a plurality of blades attached to the rotor by a fir tree arrangement.

Contact information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Kershteyn whose telephone number is **(571)272-4817**. The examiner can be reached on Monday-Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look, can be reached on **(571)272-4820**. The fax number is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308 0861.

IK
March 9, 2006

A handwritten signature in black ink, appearing to read 'Igor Kershteyn', written over a horizontal line.

**Igor Kershteyn
Patent examiner.
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